

**Bonneville Power Administration  
Fish and Wildlife Program FY98 Proposal Form**

**Section 1. General administrative information**

**Title** Salmon River Anadromous Fish Passage Enhancement

**Bonneville project number, if an ongoing project** 9306200

**Business name of agency, institution or organization requesting funding**  
Lemhi and Custer Soil and Water Conservation Districts

**Business acronym (if appropriate)** SWCD

**Proposal contact person or principal investigator:**

Name	Jude Trapani, Project Coordinator
Mailing Address	206 Van Dreff St
City, ST Zip	Salmon, Idaho 83467
Phone	(208) 756-6322
Fax	(208) 756-6376
Email address	mws@dmf.net

**Subcontractors**

Organization	Mailing Address	City, ST Zip	Contact Name
N/A			

**NPPC Program Measure Number(s)** 7.6, 7.7 Habitat and Model Watersheds

**NMFS Biological Opinion Number(s) which this project addresses.**

ESA consultation done on a site specific project by project basis.

**Other planning document references.**

Project operates under the "Model Watershed Plan" 1995 for the Lemhi, Pahsimeroi and East Fork of the Salmon Rivers.

**Subbasin** Salmon River, Idaho

### Short description.

To protect, enhance and restore anadromous and resident fish habitat and achieve and maintain a balance between resource protection and resource use on a holistic watershed management basis.

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## Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
<b>X</b>	<b>Anadromous fish</b>	<b>X</b>	<b>Construction</b>	<b>0</b>	<b>Watershed</b>
<b>+</b>	<b>Resident fish</b>		O & M		Biodiversity/genetics
	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate	<b>+</b>	<b>Monitoring/eval.</b>	<b>X</b>	<b>Flow/survival</b>
	Other		Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement		Wildlife habitat en-
			Acquisitions		hancement/restoration

### Other keywords.

Adult and juvenile migration improvements

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## Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
9202603	Model Watershed Coordination & Admin/Implementation Support	Directly supports project work (project would not happen without coordination support)
9401700	MWP Habitat Enhancement	“Co-project” for same area

## Section 4. Objectives, tasks and schedules

### Objectives and tasks

Obj #	Objective	Task a,b,c	Task
1	Increase instream flow during critical fish migration period	a	Install new headgate structure and fish ladder at Lemhi River diversion L-8a (similar as L-3a done in 1997)
2	Reduce the number of physical barriers hindering fish migrations		1) Design structure 2) MWP Committees and water user approval

			3) Local prioritization (Tech Comm) 4) Contract w/ irrigators and SWCD 5) Build structure
		b	Install diversion structure for East Fork Salmon diversion EF-9 1) Design structure 2) MWP Committees and water user approval 3) Local prioritization (Tech Comm) 4) Contract w/ irrigators and SWCD 5) Build structure

### ***Objective schedules and costs***

<b>Objective #</b>	<b>Start Date mm/yyyy</b>	<b>End Date mm/yyyy</b>	<b>Cost %</b>
1	01/1998	12/1998	55
2	01/1998	12/1998	45

### **Schedule constraints**

No constraints exist at this time. General project designs and draft approvals are in place.

### **Completion date**

2002

## **Section 5. Budget**

### ***FY98 budget by line item***

<b>Item</b>	<b>Note</b>	<b>FY98</b>
Personnel		0 **
Fringe benefits		0
Supplies, materials, non-expendable property	Headgate structure/fish ladder, rock, concrete	20,500
Operations & maintenance	Irrigators responsibility	0
Capital acquisitions		0
PIT tags	# of tags:	0
Travel		0
Indirect costs	5% SWCD overhead	1,850
Subcontracts	Installation of materials	14,650
Other		0

<b>TOTAL</b>		<b>\$37,000</b>
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\*\* MWP Coordinator, Planner and NRCS Staff paid from other budgets.

### ***Out year costs***

<b>Out year costs</b>	<b>FY1999</b>	<b>FY00</b>	<b>FY01</b>	<b>FY02</b>
Total budget	100,000	100,000	100,000	0
O&M as % of total	0	0	0	0

## **Section 6. Abstract**

The Model Watershed Project (MWP) was initiated by the Northwest Power Planning Council in 1992 to improve chinook salmon and steelhead habitat in the Lemhi, Pahsimeroi, and East Fork of the Salmon River watersheds. Currently, these watersheds provide habitat for approximately **75% of the upper Salmon River anadromous fish**. The goal of the project is to maintain, enhance, and restore anadromous and resident fish habitat while also achieving and maintaining a balance between resource protection and resource use on a holistic watershed management basis. This project is administered through Lemhi and Custer Soil and Water Conservation Districts and is coordinated through the Idaho Model Watershed Project Advisory and Technical Committee in conjunction with the IDFG screen program and the Bureau of Reclamation Water Conservation Program.

Fish migration problems have been identified in the Model Watershed Plan (1995) and the Stream Habitat Inventory for the Lemhi Pahsimeroi and East Fork Salmon Rivers, 1994 (unpublished). We are in the process of implementing appropriate habitat enhancement and passage restoration projects. These include fishways, irrigation diversion consolidations and structures, improved water distribution, improved secondary channel habitat, streambank stabilization, irrigation system development, portable fish screens and instream flow agreements as they relate to adult and juvenile fish migration. A portion of the identified projects in our priority areas are being constructed each year. Additionally, monitoring and evaluation is conducted by the MWP to access meeting project objectives.

## **Section 7. Project description**

### **a. Technical and/or scientific background.**

With the loss of anadromous fish runs in the Snake River system, habitat and migration problems have been closely scrutinized. The Model Watershed Projects were established by the NPPC to attempt to link spawning, rearing and migration habitat enhancements with current land use practices through a watershed approach. Both government agencies and resource users were and still continue to be very interested in anadromous fish recovery and are willing to participate in projects that accomplish these objectives. Since 1993, over forty different habitat and passage projects have been completed with direct benefits to fish runs. These include reducing migration barriers, increasing instream flows at critical periods and improving habitat conditions for all life-stages of fish.

In the upper Salmon River Basin, approximately 75% of the currently occupied spawning habitat for anadromous fish occurs on **private land**. Working with private landowners and irrigators on “fish” projects requires local support, trust and involvement from all parties. The MWP has established these relationships and is currently implementing projects outlined in the Model Watershed Plan 1995. The project participants wish to continue making significant improvements for fish and their habitat.

**b. Proposal objectives.**

The following goals are from the MWP Plan:

- 1) Increase instream flow during critical fish migration period
- 2) Reduce the number of physical barriers hindering fish migrations
- 3) Develop new rearing and resting pools
- 4) Establish riparian vegetation along critical habitat areas to provide cover and reduce water temperatures
- 5) Reduce sediment levels within spawning gravels

The objectives of this contract is to plan, install and monitor two diversion structures for enhanced fish passage both for adult and juvenile fish in the Lemhi and East Fork Salmon Rivers by December 31, 1998. This includes installing a new headgate structure and fish ladder at Lemhi River diversion L-8a (similar as L-3a done in 1997). Also the East Fork diversion 9 will be modified to allow improved water delivery along with encouraging the downstream migrating fish to remain in the river rather than moving into the diversion canal. The Lemhi River structure is downstream of all spawning activity and the East Fork structure is in the reach where most of the spawning and rearing take place.

**c. Rationale and significance to Regional Programs.**

The Lemhi MWP has direct significance to the Regional Fish and Wildlife Program. Section 7 of the 1994 FWP specifically addresses model watershed projects and their role in helping to reach the goals and objectives stated. The MWP bridges the gap between private, local, state and federal management on a watershed basis. Habitat issues such as spawning, rearing and migration habitat are being directly addressed and enhanced for anadromous and resident fish and wildlife. Specific aspects of habitat management such as sediment, bank stability, water quality, large woody debris, instream flow, riparian vegetation are being addressed on a watershed basis rather than haphazardly. FWP Section 7.7 directly addresses habitat protection and improvement with private landowners.

**d. Project history (for continuing projects).**

The Lemhi MWP was established in 1992 with an Administration budget for coordination and support #9202603. Project contracts were later added in 1993 for fish passage #9306200 and 1994 for fish habitat enhancement #9401700. This project is highly successful due to the cooperation of local landowners, SWCD boards, government agency personnel and others. It is common to hear “we all want to see the salmon and steelhead back here and we are willing to do our part”.

The MWP Plan was finalized in 1995 and outlines habitat goals and objectives and how to implement. We are currently in the implementation phase with around twenty projects per year constructed from BPA grants among other funding sources. We want to emphasize the importance of the coordination aspect to make this all come together. Without continued coordination, the projects would most likely not be implemented or fail in the long-term due to poor communication and understanding.

Results are large in scope. Already we have resolved many high priority issues identified in the MWP Plan. These include major improvements to adult migration barriers in the lower Lemhi and Pahsimeroi Rivers, grazing management on fourteen miles of the Lemhi River and seven miles on the Pahsimeroi River all of which is in active spawning and rearing habitat for salmon/steelhead. Additionally, a twelve-mile plan has been developed for the most critical spawning and rearing habitat in the East Fork including bank stabilization, grazing management and irrigation management. Already we are implementing four large projects to meet our objectives.

BPA funds are only part of the project implementation with many other contributors to watershed management (see Table 1 on page 7).

#### **e. Methods.**

The basic methods are outlined in the MWP Plan. Goals that reduce mortality and enhance spawning, rearing and migration habitat in the Lemhi, Pahsimeroi and East Fork of the Salmon Rivers include:

- 1) Increase instream flows during critical fish migration periods,
- 2) Reduce the number of physical barriers hindering fish migrations,
- 3) Develop new rearing and resting pools,
- 4) Establish riparian vegetation along critical areas to provide cover and reduce water temperatures, and
- 5) Reduce the sediment levels within spawning gravels.

Site specific projects will be implemented to achieve the above goals. These follow general procedures of goal identification (listed above), landowner/site visit and project scoping, inventory/data collection (completed 1994 for stream/riparian habitat on the Lemhi, Pahsimeroi and East Fork of the Salmon Rivers), objective setting (MWP Plan), action plan (MWP Plan), project implementation/construction, monitoring and evaluation (annual report). These projects follow this format along with review from the MWP technical and advisory committees and the SWCD boards. This ensures not only technical soundness and maximum fish benefits but also local/community support critical for long-term success.

#### **f. Facilities and equipment.**

The MWP is funded for Coordination/Support including facilities needed. Other entities involved play a key role in making this process work including office space, equipment for project survey, design and construction. Without the coordination funding and the help from the agencies and entities involved, the site-specific projects would not happen.

**g. References.**

Idaho Soil Conservation Commission and Bonneville Power Administration. 1995. Model Watershed Plan for the Lemhi Pahsimeroi and East Fork of the Salmon Rivers, Idaho. DOE/BP-2772, Bonneville Power Administration, Portland, Oregon.

## **Section 8. Relationships to other projects**

The Lemhi MWP was established in 1992 with an Administration budget for coordination and support #9202603. Project contracts were later added in 1993 for fish passage #9306200 and 1994 for fish habitat enhancement #9401700.

We are currently in the implementation phase with around twenty projects per year constructed from BPA grants among other funding sources. We want to emphasize the importance of the coordination aspect to make this all come together. Without continued coordination, the projects would most likely not be implemented or fail in the long-term due to poor communication and understanding..

The following table is a display of the various funding sources utilized.

Table 1: 1992 - 1997 Anadromous Fish Passage Enhancement Projects in MWP area.

	<b>Fish Passage Enhancement Funding Contributions</b>								
Lemhi Projects	Result	Idaho Fish & Game	Bureau of Rec.	Bonneville Power	Shoshone-Bannock Tribes	U.S. Fish & Wildlife Service	Technical Support	Land owner	Other
L-4 Sprinkler system	Elimination of critical diversion		500,000				NRCS BoR	O&M	
L-6 & 7 Weirs	Vast improvements to diversion structure		1,400,000						
L-3a Structure	Fish ladder and diversion improvement		30,000				IDFG/ NRCS	O&M	
Carmen Siphon	Structure reconnecting historic habitat			20,000			NRCS	5,000	
L-5 Diversion	Elimination of diversion and creation of off-channel rearing habitat		400,000				NRCS	110,000	Nature Conservancy 10,000
Diversion modification	Consolidations of L-2b/2c, L-16/17, 22/23, 46/47, EF-7/8. Elimination of EF-1/2	350,000							
Pahsimeroi Projects		Fish & Game	Bureau of Rec.	Bonneville Power	Tribes	U.S. Fish & Wildlife	Technical	Land owner	Other
Parkinson/ P-9	Fish ladder and instream flow establishment in occupied habitat			85,000/ 20,000			NRCS	20,000	
Total		350,000	2,380,000	125,000			~ 75,000	135,000 and O&M	10,000

## Section 9. Key personnel

This project is directly linked to the Model Watershed Project for coordination/administrative support. Without the MWP Coordinator, the fish passage or fish habitat enhancement projects could not be implemented. See the Administrative/Implementation budget proposal 9202603 for FY1998 for more information.

## Section 10. Information/technology transfer

The MWP has an aggressive information and education program. The MWP office publishes three newsletters per year which are mailed to all postal patrons in Lemhi and Custer counties plus many other interested parties. Three to four tours of MWP project sites are conducted which are attended by state representatives, county commissioners, interested citizens, agency personnel. All three MWP office employees participate in public speaking and presentations to elementary school children, community members, government officials, and university professors.